



Billing Code: 5001-06

DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 19-63]

Arms Sales Notification

AGENCY: Defense Security Cooperation Agency, Department of Defense.

ACTION: Arms sales notice.

SUMMARY: The Department of Defense is publishing the unclassified text of an arms sales notification.

FOR FURTHER INFORMATION CONTACT: Karma Job at karma.d.job.civ@mail.mil or (703) 697-8976.

SUPPLEMENTARY INFORMATION: This 36(b)(1) arms sales notification is published to fulfill the requirements of section 155 of Public Law 104-164 dated July 21, 1996. The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 19-63 with attached Policy Justification and Sensitivity of Technology.

Dated: December 19, 2019.

Aaron T. Siegel,

*Alternate OSD Federal Register Liaison Officer,
Department of Defense.*



DEFENSE SECURITY COOPERATION AGENCY
201 12TH STREET SOUTH, SUITE 101
ARLINGTON, VA 22202-5408

NOV 19 2019

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
H-209, The Capitol
Washington, DC 20515

Dear Madam Speaker:

Pursuant to the reporting requirements of Section 36(b)(1) of the Arms Export Control Act, as amended, we are forwarding herewith Transmittal No. 19-63 concerning the Army's proposed Letter(s) of Offer and Acceptance to the Government of Morocco for defense articles and services estimated to cost \$4.25 billion. After this letter is delivered to your office, we plan to issue a news release to notify the public of this proposed sale.

Sincerely,

A handwritten signature in black ink, appearing to read "Ch Hooper", is written over the typed name and title.

Charles W. Hooper
Lieutenant General, USA
Director

Enclosures:

1. Transmittal
2. Policy Justification
3. Sensitivity of Technology
4. Regional Balance (Classified document provided under separate cover)

Transmittal No. 19-63

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act, as amended

(i) Prospective Purchaser: Kingdom of Morocco

(ii) Total Estimated Value:

Major Defense Equipment*	\$3.00 billion
Other	<u>\$1.25 billion</u>
TOTAL	\$4.25 billion

(iii) Description and Quantity or Quantities of Articles or Services under Consideration for Purchase:

Major Defense Equipment (MDE):

Thirty-six (36) AH-64E Apache Attack Helicopters (24 new, 12 optional)
Seventy-nine (79) T700-GE-701 D Engines (72 installed, 6 spares)
Thirty-six (36) AN/ASQ-170 Modernized Target Acquisition and Designation
Sight/AN/AAR-11 Modernized Pilot Night Vision Sensors (M-TADS/PNVS)
Eighteen (18) AN/APG-78 Fire Control Radars (FCR) with Radar Electronic
Units (REU)
Eighteen (18) AN/APR-48B Modernized-Radar Frequency Interferometers
(MRFI)
Five hundred fifty-one (551) AGM-114R Hellfire Missiles (441 new, 110
optional)
Sixty (60) AGM-114L Hellfire Missiles
Seventy-two (72) M36E9 Hellfire Captive Air Training Missiles (CATM)
Five hundred eighty-eight (588) Advanced Precision Kill Weapon System
(APKWS) Kits (478 installed, 110 optional)
Seventy-eight (78) Embedded Global Positioning Systems with Inertial
Navigation (EGIs) (72 installed, 6 spares)
Thirty-nine (39) AAR-57 Common Missile Warning Systems (CMWS) (36
installed, 3 spares)
Two hundred (200) AIM-92H Stinger Missiles

Non-MDE:

Also included are twenty-one (21) Manned-Unmanned Teaming-2 (MUMT-2)
video receivers (18 installed, 3 spares); thirty-nine (39) Manned-Unmanned
Teaming-2 (MUMT-2) air-air-ground kits (36 installed, 3 spares); thirty-nine (39)
AN/APR-39D(V)2 radar signal detecting sets (36 installed, 3 spares); thirty-nine
(39) AN/AVR-2B laser detecting sets (36 installed, 3 spares); thirty-nine (39)
AN/APX-123 or AN/APX-123A common transponders (36 installed, 3 spares);
thirty-nine (39) IDM-401 Improved Data Modems (36 new, 3 spares); six (6)
Link-16 terminals; thirty-nine (39) Improved Countermeasure Dispensing System

(ICMD) (36 installed, 3 spares); thirty-nine (39) AN/ARN-149 (V)3 automatic direction finders (36 installed, 3 spares); thirty-nine (39) Doppler ASN-157 Doppler radar velocity sensors (36 installed, 3 spares); thirty-nine (39) AN/APN-209 radar altimeters (36 installed, 3 spares); thirty-nine (39) AN/ARN-153 Tactical Air Navigation (TACAN) sets (36 installed, 3 spares); four (4) TACAN ground stations; thirty-six (36) Very High Frequency Omni-Directional Range/Instrument Landing Systems (VOR/ILS) (36 installed, 3 new); twelve (12) AN/PYQ-10(C) simple key loader (12 new); thirty-six (36) M230E1 + M139 AWS automatic gun (36 new); eighty-one (81) M261 rocket launchers (72 new, 9 spares); seventy-eight (78) M299 missile launchers (72 new, 6 spares); fifty-three (53) Stinger Air-to-Air launchers (53 new); twenty-nine (29) Stinger Captive Flight Trainers (CFT) (29 new); eight (8) Stinger Aerial Handling Trainers (AHT) (8 new); five thousand two hundred sixteen (5,216) 2.75-inch rockets (3,896 new, 1,320 optional); ninety-three thousand (93,000) 30mm rounds (65,500 new, 27,500 optional); secure voice radios; training devices; communication systems; helmets; simulators; generators; transportation and organization equipment; spare and repair parts; support equipment; tools and test equipment; technical data and publications; personnel training and training equipment; U.S. Government and contractor technical assistance, technical and logistics support services; and other related elements of logistics support.

(iv) Military Department: Army

(v) Prior Related Cases, if any: MO-B-UTN

(vi) Sales Commission, Fee, etc., Paid, Offered, or Agreed to be Paid: None

(vii) Sensitivity of Technology Contained in the Defense Article or Defense Services Proposed to be Sold: See Attached Annex.

(viii) Date Report Delivered to Congress: **November 19, 2019**

*As defined in Section 47(6) of the Arms Export Control Act.

POLICY JUSTIFICATION

Morocco – AH-64E Helicopters

The Government of Morocco has requested a possible sale of thirty-six (36) AH-64E Apache attack helicopters (24 new, 12 optional); seventy-nine (79) T700-GE-701D engines (72 installed, 6 spares); thirty-six (36) AN/ASQ-170 Modernized Target Acquisition and Designation Sight/AN/AAR-11 Modernized Pilot Night Vision Sensors (M-TADS/PNVS); eighteen (18) AN/APG-78 Fire Control Radars (FCR) with Radar Electronic Units (REU); eighteen (18) AN/APR-48B Modernized - Radar Frequency Interferometers (MRFI); five hundred fifty-one

(551) AGM-114R Hellfire missiles (441 new, 110 optional); sixty (60) AGM-114L Hellfire missiles; seventy-two (72) M36E9 Hellfire Captive Air Training Missiles (CATM); five hundred eighty-eight (588) Advanced Precision Kill Weapon System (APKWS) kits (478 installed, 110 optional); seventy-eight (78) Embedded Global Positioning Systems with Inertial Navigation (EGIs) (72 installed, 6 spares); thirty-nine (39) AAR-57 Common Missile Warning Systems (CMWS) (36 installed, 3 spares); and two hundred (200) AIM-92H Stinger missiles. Also included are twenty-one (21) Manned-Unmanned Teaming-2 (MUMT-2) video receivers (18 installed, 3 spares); thirty-nine (39) Manned-Unmanned Teaming-2 (MUMT-2) air-air-ground kits (36 installed, 3 spares); thirty-nine (39) AN/APR-39D(V)2 radar signal detecting sets (36 installed, 3 spares); thirty-nine (39) AN/AVR-2B laser detecting sets (36 installed, 3 spares); thirty-nine (39) AN/APX-123 or AN/APX-123A common transponders (36 installed, 3 spares); thirty-nine (39) IDM-401 Improved Data Modems (36 new, 3 spares); six (6) Link-16 terminals; thirty-nine (39) Improved Countermeasure Dispensing System (ICMD) (36 installed, 3 spares); thirty-nine (39) AN/ARN-149 (V)3 automatic direction finders (36 installed, 3 spares); thirty-nine (39) Doppler ASN-157 Doppler radar velocity sensors (36 installed, 3 spares); thirty-nine (39) AN/APN-209 radar altimeters (36 installed, 3 spares); thirty-nine (39) AN/ARN-153 Tactical Air Navigation (TACAN) sets (36 installed, 3 spares); four (4) TACAN ground stations; thirty-six (36) Very High Frequency Omni-Directional Range/Instrument Landing Systems (VOR/ILS) (36 installed, 3 new); twelve (12) AN/PYQ-10(C) simple key loader (12 new); thirty-six (36) M230E1 + M139 AWS automatic gun (36 new); eighty-one (81) M261 rocket launchers (72 new, 9 spares); seventy-eight (78) M299 missile launchers (72 new, 6 spares); fifty-three (53) Stinger Air-to-Air launchers (53 new); twenty-nine (29) Stinger Captive Flight Trainers (CFT) (29 new); eight (8) Stinger Aerial Handling Trainers (AHT) (8 new); five thousand two hundred sixteen (5,216) 2.75-inch rockets (3,896 new, 1,320 optional); ninety-three thousand (93,000) 30mm rounds (65,500 new, 27,500 optional); secure voice radios; training devices; communication systems; helmets; simulators; generators; transportation and organization equipment; spare and repair parts; support equipment; tools and test equipment; technical data and publications; personnel training and training equipment; U.S. Government and contractor technical assistance, technical and logistics support services; and other related elements of logistics support. The estimated cost is \$4.25 billion.

This proposed sale will support the foreign policy and national security of the United States by helping to improve the security of a major Non-NATO ally that is an important force for political stability and economic progress in North Africa.

The proposed sale will improve Morocco's capability to meet current and future threats, and will enhance interoperability with U.S. forces and other allied forces. Morocco will use the enhanced capability to strengthen its homeland defense and provide close air support to its forces. Morocco will have no difficulty absorbing the Apache aircraft into its armed forces.

The proposed sale of this equipment and services will not alter the basic military balance in the region.

The prime contractors involved in this program will be Boeing Company, Mesa, AZ and Lockheed Martin, Orlando, FL. There are no known offset agreements proposed in connection

with this potential sale. The purchaser typically requests offsets. Any offset agreement will be defined in negotiations between the purchaser and the contractor(s).

Implementation of this proposed sale will require the assignment of eleven U.S. Government personnel and three contractor representatives to Morocco as part of the Technical Assistance Fielding Team and Field Service Representatives.

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

Transmittal No. 19-63

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act

Annex
Item No. vii

(vii) Sensitivity of Technology:

1. The AH-64E Apache Attack Helicopter weapon system contains communications and target identification equipment, navigation equipment, aircraft survivability equipment, displays, and sensors. The airframe itself does not contain sensitive technology; however, the pertinent equipment listed below will be either installed on the aircraft or included in the sale. The highest classification of the AH-64E Apache Helicopter is CONFIDENTIAL, and the highest classification of data and information is SECRET.

a. The AN/ASQ-170 Modernized Target Acquisition and Designation Sight/ AN/AAQ-11 Pilot Night Vision Sensor (MTADS/PNVS) provides day, night, and limited adverse weather target information, as well as night navigation capabilities. The PNVS provides thermal imaging that permits nap-of-the-earth flight to, from, and within the battle area, while TADS provides the co-pilot gunner with search, detection, recognition, and designation by means of Direct View Optics (DVO), EI2 television, and Forward Looking Infrared (FLIR) sighting systems that may be used singularly or in combinations. Hardware is UNCLASSIFIED. Technical manuals for authorized maintenance levels are UNCLASSIFIED.

b. The AN/APG-78 Fire Control Radar (FCR) is an active, low-probability of intercept, millimeter-wave radar, combined with a passive AN/APR-48B Modernized Radar Frequency Interferometer (M-RFI) mounted on top of the helicopter mast. The FCR Ground Targeting Mode detects, locates, classifies and prioritizes stationary or moving armored vehicles, tanks and mobile air defense systems as well as hovering helicopters, and fixed wing aircraft in normal flight. If desired, the radar data can be used to refer targets to the regular electro-optical Modernized Target Acquisition and Designation Sight (MTADS). The content of these items is classified SECRET. User Data Module (UDM) on the RFI processor, contains the Radio Frequency threat library. The UDM, which is a hardware

assemblage, is classified CONFIDENTIAL when programmed.

c. The AN/APR-48B Modernized Radar Frequency Interferometer (M-RFI) is an updated version of the passive radar detection and direction finding system. It utilizes a detachable UDM on the M-RFI processor, which contains the Radar Frequency (RF) threat library. The UDM, which is a hardware assemblage item is classified CONFIDENTIAL when programmed. Hardware becomes CLASSIFIED when populated with threat parametric data. Releasable technical manuals are UNCLASSIFIED/Restricted distribution.

d. The AGM-114R is used against heavy and light armored targets, thin skinned vehicles, urban structures, bunkers, caves and personnel. The missile is Inertial Measurement Unit (IMU) based, with a variable delay fuse, improved safety and reliability. The highest level for release of the AGM-114R is SECRET. The highest level of classified information that could be disclosed by a proposed sale or by testing of the end item is up to and including SECRET. The highest level that must be disclosed for production, maintenance, or training is up to and including SECRET. Vulnerability data, countermeasures, vulnerability/susceptibility analyses, and threat definitions are classified SECRET or CONFIDENTIAL. Reverse engineering could reveal SECRET information.

e. The Hellfire M36E9 CATM is a flight-training missile that consists of a functional guidance section coupled to an inert missile bus. The M36E9 CATM does not have a functional rocket motor or warhead, and cannot be launched. The missile has an operational semiactive laser seeker that can search for and lock-on to laser-designated targets. It functions like a tactical missile (without launch capability) during captive carry on the aircraft, making it suitable for training the aircrew in simulated Hellfire missile target acquisition and lock. The missile comes in a reusable aluminum container designed to protect the missile from shock, vibration, and other environmental conditions encountered during shipment, handling, and storage. The highest level for release of the CATM is SECRET, based upon the software. The highest level of classified information that could be disclosed by a proposed sale or by testing of the end item is SECRET; the highest level that must be disclosed for production, maintenance, or training is CONFIDENTIAL. Reverse engineering could reveal confidential information. Vulnerability data, countermeasures, vulnerability/ susceptibility analyses, and threat definitions are classified SECRET or CONFIDENTIAL.

f. The Embedded Global Positioning System/Inertial Navigation System plus Multi Mode Receiver (EGI+MMR). The aircraft has two EGIs which use internal accelerometers, rate gyro measurements, and external sensor measurements to estimate the aircraft state, provides aircraft flight and position data to aircraft systems. The EGI is a velocity-aided, strap down, ring laser gyro based inertial unit. The EGI unit houses a GPS receiver. The receiver is capable of operating in either non-encrypted or encrypted. When keyed, the GPS receiver will automatically use anti-spoof/jam capabilities when they are in use. The EGI will retain the key through power on/off/on cycles. Because of safeguards built into the EGI, it is not considered classified when keyed. Integrated within the EGI is an Inertial Measurement Unit (IMU) for processing functions. Each EGI also houses a Multi-Mode Receiver (MMR). The MMR is incorporated to provide for reception of ground based NAVAID signals for instrument aided flight. Provides IMC I IFR integration and

certification of improved Embedded Global Positioning System and Inertial (EGI) unit, with attached MMR, with specific cockpit instrumentation allows Apaches to operate within the worldwide IFR route structure. Also includes integration of the Common Army Aviation Map (CAAM), Area Navigation (RNAV), Digital Aeronautical Flight Information File (DAFIF) and Global Air Traffic Management (GATM) compliance.

g. The AAR-57 Common Missile Warning System (CMWS) detects energy emitted by threat missiles in-flight, evaluates potential false alarm emitters in the environment, declares validity of threat and selects appropriate countermeasures. The CMWS consists of an Electronic Control Unit (ECU), Electro-Optic Missile Sensors (EOMSs), and Sequencer and Improved Countermeasures Dispenser (ICMD). The ECU hardware is classified CONFIDENTIAL; releasable technical manuals for operation and maintenance are classified SECRET.

h. The AN/APR-39 Radar Signal Detecting Set is a system that provides warnings of radar-directed air defense threats and allows appropriate countermeasures. This is the 1553 databus compatible configuration. The hardware is classified CONFIDENTIAL when programmed with threat data; releasable technical manuals for operation and maintenance are classified CONFIDENTIAL; releasable technical data (technical performance) is classified SECRET. The system can be programmed with threat data provided by the purchasing country.

i. The Stinger RMP Block I Missile, hardware, embedded software object code and operating documentation contain sensitive technology and are classified CONFIDENTIAL. The highest classification of the Stinger 92H Reprogrammable Micro-Processor (RMP) Block I missile hardware is CONFIDENTIAL, and the highest classification of data and information is SECRET. The guidance section of the missile and tracking head trainer contain highly sensitive technology and are classified CONFIDENTIAL. Missile System hardware components contain sensitive critical technologies. Stinger Block I critical technology is primarily in the area of design and production know-how and not end-items. Information on countermeasures vulnerability to electronic countermeasures, system performance capabilities and effectiveness, simulation and test data and software source code are classified up to SECRET.

2. If a technologically advanced adversary were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures that might reduce weapon system effectiveness or be used in the development of a system with similar or advanced capabilities.

3. A determination has been made that Morocco can provide substantially the same degree of protection for the sensitive technology being released as the U.S. Government. This sale is necessary in furtherance of the U.S. foreign policy and national security objectives outlined in the Policy Justification.

4. All defense articles and services listed in this transmittal are authorized for release and export to the Government of Morocco.

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